



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/806,999

03/23/2004

Makoto Doi

36593

2822

116 7590 12/18/2007
PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER

REDDING, THOMAS M

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

12/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/806,999

Applicant(s)

DOI ET AL.

Examiner

Thomas M. Redding

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/13/2004 and 3/23/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. Figures 7 and 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract should stand on its own without requiring reference to the rest of the specification. At present, the abstract refers to elements labeled by reference numbers in the drawings (e.g. camera 2, camera 3 and camera 9). The abstract should be rephrased for clarity without requiring reference to the drawings. Correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7-9, 17-19 and the claims depending thereon, 10/7-9 and 20/17-19, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

5. Claims 7-9 and 17-19, recite the limitation "extracts the feature pattern from an authentication object image picked up at the moment that ***the image*** of the authenticated person becomes stationary" in lines 5 and 6. There is insufficient antecedent basis for this limitation in the claim. In each of these claims more than one image has been disclosed, all of them contain the "authenticated person".

6. Claims 7-9 and 17-19, recite the limitation "extracts the feature pattern from an authentication object image picked up at the ***moment*** that the image of the authenticated person becomes stationary" in lines 5 and 6 of the claims. There is insufficient antecedent basis for this limitation in the claim. The word "moment" has not been adequately defined.

7. For the purposes of this examination, it will be presumed that "extracts the feature pattern from an authentication object image picked up at the moment that the image of the authenticated person becomes stationary" means "extracts the feature pattern from an authentication object image picked up at the time that the image of the authenticated person as determined in the monitoring image becomes stationary".

Claims 10 and 20 are likewise rejected under 35 U.S.C. 112, second paragraph by the virtue of their dependency on claims 7-9 and 17-19.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doi et al. (JP 2002-122899). A machine translation of JP 2002-122899, provided herewith, is being relied upon by the examiner for the time being. A formal translation is on order, and will be provided with the mailing of the next office action.

Regarding claims 1 and 11, Doi'899 discloses [a]n authentication object image pick-up device comprising:

an eye image pick-up device being pointed at a direction of an eye of the authenticated person obtained by analyzing the face image of the authenticated person ("a telephotographic camera picturizes the iris", Doi'899, paragraph 8, and drawing 1, reference 22 – telephotographic camera, reference 23 - rotating mirror and reference 20 – tilt base);

a monitoring image pick-up device for picking up an image of a circumference of places in which the face image pick-up device and the eye image pick-up device are provided ("the telephotographic camera which picturizes the iris of said photographic subject from the image pick-up image of said wide angle camera", "Doi'899, paragraph 5, the wide angle camera is the monitoring image pick-up device); and

a control section for analyzing the image picked up by the monitoring image pick-up device and starting an image pick-up operation of the face image pick-up device when detecting that the authenticated person enters a shooting range of the face image pick-up device ("telephotographic camera is characterized by picturizing said iris of said

photographic subject based on the image pick-up image of said wide angle camera, and the measurement distance of said ranging sensor", Doi'899, paragraph 5, the telephoto camera is triggered based on the analysis of the wide angle camera image when the person is within range as determined by the ranging sensor).

Doi'899 does not disclose a face image pick-up device for picking up a face image of a person to be authenticated or analyzing a face image for directing the eye image pick-up device.

However, the disclosure of Doi does suggest using a camera covering a wide field of view to direct another camera with a narrower field of view which could be used to implement a face image pick-up device for picking up a face image of a person to be authenticated ("The wide angle camera which picturizes a photographic subject in the iris image pick-up equipment", Doi'899, paragraph 5); and control section for analyzing an image picked up by the monitoring image pick-up device to obtain a position of a face of the authenticated person ("a control section 30 distinguishes whether as for close, a face is in an image pick-up image by pattern-matching processing, and when close is not, a face outputs an actuation command to the motor 21 ...", Doi'899, paragraph 49);

It would have been obvious at the time the invention was made for one of ordinary skill in the art to use the teachings of Doi'899 to control a face image pick-up

device for picking up a face image of a person to be authenticated as an intermediate stage in the system disclosed by Doi'899 in order to get a more accurate estimate of the eye and iris positions of a subject by using a higher resolution picture than would be available from the wide angle camera. It also would permit using lower cost cameras and optics where the resolution of the wide-angle camera may permit locating a face, but would not be able to resolve eyes directly.

Regarding claims 2 and 12, Doi'899 teaches [a]n authentication object image pick-up device comprising:

an eye image pick-up device for picking up an eye image of a person to be authenticated ("a telephotographic camera picturizes the iris", Doi'899, paragraph 8, and drawing 1, reference 22 – telephotographic camera, reference 23 - rotating mirror and reference 20 – tilt base);

a monitoring image pick-up device for picking up an image of a circumference of a place in which the eye image pick-up device is provided ("the telephotographic camera which picturizes the iris of said photographic subject from the image pick-up image of said wide angle camera", "Doi'899, paragraph 5, the wide angle camera is the monitoring image pick-up device); and

a control section for analyzing the image picked up by the monitoring image pick-up device and starting an image pick-up operation of the eye image pick-up device when detecting that the authenticated person enters a shooting range of the eye image pick-up device ("telephotographic camera is characterized by picturizing said iris of said

photographic subject based on the image pick-up image of said wide angle camera, and the measurement distance of said ranging sensor", Doi'899, paragraph 5, the telephoto camera is triggered based on the analysis of the wide angle camera image when the person is within range as determined by the ranging sensor).

Regarding claims 3, 4, 13 and 14, Doi'899 discloses wherein the control section extracts an iris feature pattern or a retina feature pattern from the eye image ("a telephotographic camera 22 may catch the iris with high precision", Doi'899, paragraph 52).

Regarding claims 5 and 15, Doi'899 teaches [a]n authentication object image pick-up device comprising:

a face image pick-up device for picking up a face image of a person to be authenticated ("the telephotographic camera which picturizes the iris of said photographic subject from the image pick-up image of said wide angle camera", "Doi'899, paragraph 5, the eyes are part of the face) ;

a monitoring image pick-up device for picking up an image of a circumference of a place in which the face image pick-up device is provided("the telephotographic camera which picturizes the iris of said photographic subject from the image pick-up image of said wide angle camera", "Doi'899, paragraph 5, the wide angle camera is the monitoring image pick-up device); and

a control section for analyzing the image picked up by the monitoring image pick-up section and starting an image pick-up operation of the face image pick-up device when detecting that the authenticated person enters a shooting range of the face image pick-up device ("telephotographic camera is characterized by picturizing said iris of said photographic subject based on the image pick-up image of said wide angle camera, and the measurement distance of said ranging sensor", Doi'899, paragraph 5, the telephoto camera is triggered based on the analysis of the wide angle camera image when the person is within range as determined by the ranging sensor).

Regarding claims 6 and 16, Doi'899 teaches wherein the control section extracts a face feature pattern from the face image ("At the following step S8, a control section 30 detects the location of a left eye or a right eye out of the wide angle camera image pick-up image captured at step S7", Doi'899, paragraph 51, the eyes are a face feature pattern).

10. Claims 7-10 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doi et al. (JP 2002-122899) in combination with Lee et al. (US 2002/0131622 A1).

Regarding claims 7-9 and 17-19, Doi'899 teaches all the elements of the parent claims.

Doi'899 does not teach wherein the control section monitors the image picked up by the monitoring image pick-up device and extracts the feature pattern from an authentication object image picked up at the moment that the image of the authenticated person becomes stationary.

Lee, working in the same field of endeavor of iris recognition systems does teach a control section [that] monitors the image picked up by the monitoring image pick-up device and extracts the feature pattern from an authentication object image picked up at the moment that the image of the authenticated person becomes stationary ("A camera operation controller 204, using the information about distance, speed and acceleration provided from the distance processor 203, controls the operation of the camera 205 when the use stands still. Here, even when the user's movement is not yet stabilized, it is important to estimate beforehand where the user is going stop and drive the camera's lens to that position because it certainly reduces time necessary for focusing the camera", Lee, paragraph 23, Lee estimates when motion will stop and prepares his system to collect an image as fast as possible).

It would have been obvious at the time the invention was made to use the acquisition method of Lee with the iris recognition system of Doi'899 to speed up acquisition ("even when the user's movement is not yet stabilized, it is important to estimate beforehand where the user is going stop and drive the camera's lens to that

position because it certainly reduces time necessary for focusing the camera", Lee, paragraph 23), which results in a more desirable system ("The performance of this iris recognition system is totally dependent on how fast and how accurately it can recognize the iris", Lee, paragraph 13). It also reduces the risk of motion blurring of the captured image.

Regarding claims 10/1-8 and 20/11-18, the combination of Doi'899 teaches all the elements of claims 1-8 and 11-18 as described above.

Doi'899 does not teach wherein the control section decides a stationary object in the shooting range as a authenticated person when images of a plurality of moving objects are present in the image picked up by the monitoring image pick-up device.

Lee teaches wherein the control section decides a stationary object in the shooting range as a authenticated person when images of a plurality of moving objects are present in the image picked up by the monitoring image pick-up device ("A camera operation controller 204, using the information about distance, speed and acceleration provided from the distance processor 203, controls the operation of the camera 205 when the use stands still", Lee, paragraph 23, Lee's subject of interest is the person who is standing still. Moving objects would not qualify for further analysis).

It would have been obvious at the time the invention was made to combine the subject selection method of Lee with the iris analysis system of Doi'899 in order to create a robust system that operates quickly and efficiently providing minimal delay for the user ("The performance of this iris recognition system is totally dependent on how fast and how accurately it can recognize the iris", Lee, paragraph 13).

Regarding claims 10/9 and 20/19, the combination of Doi'899 and Lee teach wherein the control section decides a stationary object in the shooting range as a authenticated person when images of a plurality of moving objects are present in the image picked up by the monitoring image pick-up device ("A camera operation controller 204, using the information about distance, speed and acceleration provided from the distance processor 203, controls the operation of the camera 205 when the use stands still", Lee, paragraph 23, Lee's subject of interest is the person who is standing still. Moving objects would not qualify for further analysis).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M. Redding whose telephone number is (571) 270-1579. The examiner can normally be reached on Mon - Fri 7:30 am - 5:00 pm EST.

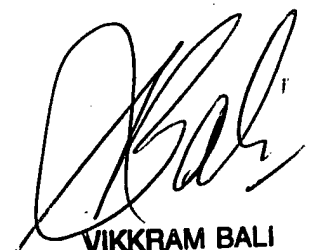
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/806,999
Art Unit: 2624

Page 13

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TMR/



VIKKRAM BALI
PRIMARY EXAMINER